

# OPERATOR'S MANUAL



**PORTABLE ELECTRIC BLANKET**

**Model 8000 Series**

**Another Product by ThermoGear™**  
**Medical Products Division**

**CAUTION:** Federal law (USA) restricts this device to sale by or on the order of a healthcare professional.

**WARNING:** The user must become familiar with the contents of this manual before use of this device.

**NOTES:** This manual is subject to change without notice. User assumes all risk for use of this product. ThermoGear™ accepts no responsibility for mis-use or use not described within this manual.

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## **INTRODUCTION**

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The ChillBuster® Model 8000 Series Portable Electric Blanket System provides an electrically heated blanket, using switched direct current electrical energy. A temperature controller provides regulation of the blanket temperature within a range that permits the blanket to be used to maintain patient comfort and to treat hypothermia.

A convenient knob provides simple operation and adjustment of the temperature setting.

Indicators are provided to indicate the ChillBuster® 8000 System status.

### **Intended Use**

The ChillBuster® Model 8000 Series Portable Electric Blanket System is intended for use as a heated blanket to reduce the effects of hypothermia and to provide a temperature controlled heated blanket. Use is limited to whole-body warming in adult humans.

### **General Information**

Read and become familiar with the contents of this manual before use of the ChillBuster® 8000 System. Only qualified personnel should operate the System.

Place the ChillBuster® 8000 System controller on a secure surface before use to avoid damage by dropping the controller.

Actual power supplied to the blanket and resulting heating is a function of the ambient temperature and other patient coverings.

The patient's condition must be monitored to assure that proper heating is being applied. Use of a tympanic temperature probe at 15 minute intervals (or more often) is recommended.

Protect the System from splashes, sprays, or immersion in liquids to prevent damage.

The patient should be as dry as possible before application of the ChillBuster® 8000 System to avoid cooling effects.

To avoid cross-contamination, a disposable sterile blanket cover should always be employed.

Use only accessories and supplies provided by or recommended by ThermoGear™.

Do not attempt to re-use any supplies marked as "single-use."

Do not autoclave any portion of the ChillBuster® 8000 System, including blanket, cables, and controller.

Inspect the accessories and cable for wear. Replace any damaged or worn components before use. Only use approved accessories or supplies from ThermoGear™.

Verify function of the ChillBuster® 8000 System. Do not use the System if any problem is detected. If the system is dropped or abused, the operation must be fully verified before use with a patient.

Use caution when connecting to any power source.

The ChillBuster® 8000 System contains no user-serviceable parts. Replacement accessories and supplies are available from ThermoGear™.

A healthcare practitioner must continuously monitor the temperature and vital signs of any patient who is unconscious, lethargic, incapacitated or unresponsive, while the ChillBuster® 8000 System is in use.

A thermal protection circuit provides automatic reduction in applied energy if the blanket reaches a high temperature limit.

## FEATURES

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The ChillBuster® Model 8000 Series Portable Electric Blanket System has three basic elements, plus accessories and supplies.

### **BLANKET AND COVER**

The blanket, which is placed over the patient, has a cable to connect to the Controller. A disposable, sterile cover is to be used over the blanket with each use, to avoid cross-contamination risk.

### **CONTROLLER**

The Controller, with an internal battery, provides the ON-OFF and temperature adjustment control, and status indicators. An optional bracket allows suspending the controller from a bed rail or an IV pole.

The adjustment knob clicks to the OFF position when rotated in a fully counter-clockwise direction. No power will be applied to the blanket in this condition.

When the adjustment is clicked ON by rotating the knob clockwise, direct current electrical energy is applied to the blanket to provide heating. The temperature setting is determined by the amount of knob rotation.

Three indicators are provided to show status of the Controller, as described below. An audible alert is provided and operates in conjunction with one of the indicators.

### **POWER Indicator**

The POWER INDICATOR is illuminated when the knob on the controller is rotated to the right of the detented OFF position and power is applied to the blanket. It is illuminated when the Power Supply is in use, which



allows the unit to operate while charging the battery or when operating from a battery.

The indicator will not illuminate if the battery charger is in use or when the battery is depleted.

### **CHARGE Indicator**

The CHARGE INDICATOR is illuminated when the Controller is connected to a source of power using the battery charger, the AC POWER MODULE, or a DC power cord, indicating that the internal battery is being charged. The indicator remains lighted when a full charge has been obtained. Once the external power supply has been disconnected, the CHARGE INDICATOR will no longer be illuminated.

### **LOW BATTERY/FAULT Indicator**

The LOW BATTERY/FAULT INDICATOR is illuminated when an internal or external fault is detected, or if the internal battery becomes sufficiently depleted. The audible alert will also be sounding when this indicator is illuminated.

## **POWER SUPPLIES**

Depending upon the specific model ordered, there are two external line-voltage power supplies that are available. One supply, the battery charger, is used only to recharge the internal battery, but not while the blanket is in use. The second supply, the AC power module, may be used at any time, when line power is available, to recharge the internal controller battery and/or to provide power for operation of the blanket.

A DC cord may also be provided for connection to an automotive "cigarette lighter" socket. The DC cord allows the blanket to operate while charging the battery.

## **Battery Charger**

The BATTERY CHARGER is a small rectangular unit with an integral AC plug for directly connecting to the AC line wall outlet power. An integral cable and connector attaches to the POWER INPUT/CHARGER socket on the Controller. This charger provides current to recharge the internal Controller battery, but does not provide power for the blanket. The blanket will not heat while this Battery Charger is in use.

## **AC Power Module**

The AC POWER MODULE is larger than the battery charger, described above. The AC Power Module is capable of providing power to the controller for blanket operation while simultaneously re-charging the internal battery. A detachable hospital-grade AC power cord connects the AC POWER MODULE to the wall outlet. An integral cable and connector attaches to the POWER INPUT CHARGER socket on the Controller.

## **DC Cord (for 12 Volt operation)**

A power cord with a cigarette lighter adapter is available for operation from an external DC power source. The DC power source must be nominal 12 volts, such as is found in current production automobiles.

The DC cord allows the blanket to operate while charging the battery.

## **ACCESSORIES/SUPPLIES**

### **Rail Hook**

The ChillBuster® 8000 System is supplied with a hook to allow the Controller to be suspended from a bed rail. This rail hook may be removed, and replaced with a flat plate, to facilitate use of the controller on flat surfaces.

An optional bracket allows the Controller to be attached to an IV pole.

### **Carrying Bag**

A carrying bag is provided as an accessory, to allow convenient organization of the blanket, blanket covers, the Controller, and one or more power supplies, as desired.

### **Disposable, Sterile Blanket Cover**

A disposable blanket cover is supplied in a sterile condition. The cover should be replaced between patients, to avoid risk of cross-contamination by contact with body fluids.



## OPERATION

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The ChillBuster® Model 8000 Series Portable Electric Blanket System is typically packed in the carrying bag. The following steps provide simple instructions for using the System.

### **Beginning Use With a Patient**

1. Determine the optimum means of powering the blanket for the specific patient need. The choices are internal battery power only, external DC power, or external AC power. Determine that an external DC or AC power source is available, or use the internal battery power. If an AC power source is to be used, connect the AC power cord to the module.

Be sure that the power cord will reach the selected power source.

2. Place the Controller in a convenient, stable location. The Controller must be protected from fluids and from being dropped. Be sure that the controller knob is in the OFF position by turning the ON-OFF knob fully counter-clockwise, past the detent, to the OFF position. Locate the blanket cable, and route to the patient. Note that the cable should route to either the right foot or left shoulder of a patient lying on his/her back, to facilitate connection to the blanket.
3. Locate the blanket and a disposable, sterile blanket cover. Place the blanket cover over the blanket, making certain that the connector on the blanket is located at the open end of the cover. Connect the blanket connector to the cable from the Controller.
4. Remove the covering of the tape on the blanket cover, and seal the cover closed.

5. Place the blanket over the patient with the blue side of the blanket away from the patient.
6. If it has been determined that an external power source is to be used, connect the cable from the cigarette lighter adapter or the AC Power Module to the Controller. Then plug the lighter adapter into the cigarette lighter socket or the AC power cord into the wall outlet. At this point, the CHARGE indicator will be illuminated.
7. Once the connections have been made, turn the Controller knob clock-wise, past the detent (a click may be heard). Adjust the knob to obtain the desired heating. Highest heat will be at the fully clock-wise point. The POWER indicator should be illuminated.
8. Monitor the patient's temperature and other vital signs. Position the temperature setting, as necessary.

### **Removing From Use With a Patient**

1. Turn the temperature adjustment knob fully counter-clockwise. A click may be heard and the POWER indicator should no longer be illuminated.
2. Remove the blanket from the patient. Disconnect the cable from the blanket.
3. Remove and discard the blanket cover. If bodily fluids have contacted the blanket cover, aseptic technique should be used to discard the cover and to clean the blanket.
4. Disconnect the power supply (if used).
5. Re-pack the ChillBuster® 8000 System components into the carry bag.

6. Determine if another blanket cover is available in the carry bag. If not, obtain another blanket cover(s) and re-stock the carry bag.

### **Recharging The Battery**

1. Connect any one of the three power supply accessories to the controller (cigarette lighter adapter, battery charger, or AC Power Module).
2. Connect the accessory to a power source.
3. Maintain the power source connection and allow the Controller to charge. For best results, allow at least 8 hours for full charge.
4. Disconnect the power supply accessory from the power source and from the Controller.

## ALARMS

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During use, the ChillBuster® 8000 System monitors several conditions. If necessary, an audible and a visual alert are provide to the user. The audible alert will pulse, to draw the user's attention.

Suggested responses to alarm conditions are shown below:

When an alarm occurs, first check the patient. Then note the indicators, determining which are illuminated. Turn the temperature adjustment control to the OFF position. The audible alarm should cease.

Determine if a high heat condition seems to exist, indicating that an over-temperature condition has been detected. A high temperature condition may be normal, if the ambient temperature is high, or if the patient has had an additional covering to reduce heat loss. After the patient and blanket have cooled, the controller can be re-set to a lower control point, or the use of the blanket may be discontinued.

Check for proper connections. A loose connection to the blanket may trigger a combined audible alarm and illuminated FAULT indicator.

If the ChillBuster® System is being operated only from the internal battery, a low battery indication will result in an audible alert. The POWER and CHARGE indicators will not be lit, but the FAULT indicator will be illuminated. Recharge the battery using the battery charger, or use the AC POWER MODULE with the Controller.



If the alarm is not due to the above conditions, then suspect a system fault.

Remove the blanket from the patient. Keep the patient warm using alternative techniques.

At a convenient time, re-check the blanket operation, by testing the blanket temperature at various adjustment settings. If the blanket does not heat or if the temperature is not stable and controlled, return the System and the blanket for repair.



## **CARE AND MAINTENANCE**

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### **CLEANING**

The ChillBuster® 8000 System components should be cleaned according to the procedures described below, using only the cleaning material specified. While cleaning, carefully check for worn or damaged cables. Timely maintenance will avoid problems.

Wipe down exterior surfaces of the Controller with a slightly-damp cloth containing a mild cleaning agent such as 409. Do not use an excessively wet cloth or a spray cleaner, to avoid ingress of liquids. Use another cloth, dampened only with water, to remove the residue of the cleaning agent.

The blanket may be cleaned by machine washing in warm water using a household detergent (no bleach), and a gentle wash cycle; tumble dry on low heat, or air dry.

### **MAINTENANCE**

The ChillBuster® 8000 System has no user-serviceable components. If a question arises as to proper functioning, the System may be checked by using an external thermometer (not supplied) to monitor the heating action.

#### **Fully Recharge the Internal Battery**

Check the Controller temperature adjustment knob, to ensure that it is in the fully counter-clockwise position. Verify this by turning to the right, and back to the left, past the click/detent. Then attach any one of the three possible external power sources, as described above. Verify that the CHARGE indicator is illuminated. Allow the System to charge fully for at least 12 hours for a full charge. Remove the external cable. The CHARGE indicator should no longer be illuminated.

## **Temperature Control Check**

(ambient temperature must be less than 77 degrees F (30 degrees C))

1. Set up the blanket. Spread the blanket (with or without a blanket cover) over a flat surface, such as a mattress with the blue-colored side of the blanket up. Connect the controller to the blanket.
2. Make an initial temperature measurement. Using an external thermometer, measure the temperature immediately below the blanket, in the middle of the covered area. Note the result. If this temperature is above 86 degrees F (25 degrees C), discontinue this test until a lower ambient temperature is available.
3. Turn the Controller adjustment knob fully clock-wise. The POWER indicator should be illuminated. Note the time. After a minimum of 10 minutes, record another measurement of the temperature in the same manner as above.
4. Turn the Controller knob counter-clockwise, until resistance is felt. Do not turn to the full OFF position. The POWER indicator should still be illuminated. Note the time. After a minimum of 10 minutes, record another measurement of the temperature in the same manner as above.
5. Review the temperature results. The temperature in step 2 should be no more than 77 degrees F (25 degrees C). The temperature in step 3 should be higher than the temperature in step 2, but less than 108 degrees F (42 degrees C). The temperature in step 4 should be higher than the temperature in step 2, and lower than the temperature in step 3.

	Temp. Measurement	Acceptable range	OK?	Note
Step 2		20 C to 25 C		If temp. is too high, testing will be invalid. Seek a cooler location.
Step 3		35 C to 42 C		If the temp. does not increase, check the blanket and connections.
Step 4		between step 2 & step 3		If the temp. is out of range, check blanket and connections.

If the readings are out of range, the unit may require servicing. Refer to the notes before contacting ThermoGear™ for more information.

## **INTERNAL BATTERY**

The ChillBuster® 8000 System uses a sealed lead acid battery. The battery will provide many years of service. However, if the battery is not maintained with a proper charge, or with the passage of time, it may require replacement.

## **Battery Replacement**

Open the access panel on the bottom of the Controller using a suitable screwdriver. Separate the connection to the battery, and remove the battery. Replace the battery only with a new battery of identical type, obtained from ThermoGear™. Fully charge the new battery before returning the System to service.



## **SERVICE AND WARRANTY**

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### **CUSTOMER SERVICE**

For general information, questions about products, orders and after-sales support, call ThermoGear™ Customer Service. Contact information is provided inside the front cover.

Technical inquiries about the ChillBuster® Model 8000 Series System should also be directed to ThermoGear™ Customer Service.

### **WARRANTY and REPAIR SERVICE**

If a repair seems to be necessary, call ThermoGear™ Customer Service first. The contact information is provided inside the front cover. You may be directed to a designated facility closer to you. Before returning any product, a Returned Goods Authorization (RGA) will be provided to you, with shipping instructions for the proper repair facility. Do not return product without obtaining an RGA.

Warranty repairs will be provided at no charge. Out of warranty repairs will be quoted upon request.





## LIMITED WARRANTY

ThermoGear™ ChillBuster® 8000 Systems are warranted against defective material and workmanship (excluding battery, cables, and blanket) for one year following the delivery of the System to the original purchaser.

If, in the judgment of ThermoGear™, any System or part thereof is proven to be defective in material or workmanship within one year from date of original purchase, such defect(s) will be repaired or replaced (at the option of ThermoGear™) free of charge for parts or labor

This warranty does not apply to any product which has been damaged by accident, or which has been misused, abused, altered, or repaired by anyone other than ThermoGear™ or its authorized representatives.

ThermoGear™ shall not be liable to any person for any direct or consequential damages resulting from or caused by any defect, failure, or malfunction of this System.

This warranty is in lieu of all other warranties expressed or implied including any implied warranty of merchantability or fitness for a particular purpose, and no person is authorized to assume for ThermoGear™ any other liability in connection with the sale of this System.

To obtain service, the System or component should be shipped pre-paid, with the Return Goods Authorization, to ThermoGear™, at the address provided by Customer Service. In-warranty repairs will be returned postage pre-paid.



## **SUPPLIES, PART AND ACCESSORIES**

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### **CONSUMABLES**

Sterile Blanket Cover (25 covers/box) p/n 800ZAC-25

### **PARTS**

Blanket	p/n C90016R
Battery (sealed lead-acid)	p/n C90007R
Carry Bag	p/n C90028B (black) p/n C90028O (orange)
Manual	p/n C90022

### **ACCESSORIES**

AC Power Module (powers blanket and re-charges battery)	p/n C90011AR
AC Battery Charger (re-charges battery, only)	p/n C90023R
Cigarette Lighter Adapter (powers blanket and re-charges battery)	p/n C90024R

Contact ThermoGear™ at the address listed inside the front cover for ordering information and prices.



## **SYMBOLS AND DEFINITIONS**

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### **DEFINITIONS**



**"ATTENTION": CONSULT ACCOMPANYING DOCUMENTS**



**COVER PATIENT FULLY**



**DO NOT PARTIALLY COVER**



**DO NOT FOLD**



**TYPE BF**



**FOR CLASS II EQUIPMENT**



**THIS PRODUCT HAS BEEN CERTIFIED TO BOTH  
US AND CANADIAN REQUIREMENTS**



## SPECIFICATIONS AND DECLARATIONS

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***NOTE. Product design and specifications are subject to change without notice.***

### Detailed Specifications

Controller Dimensions	- 13"(l) x 8"(w) x 10.5"(h)
Controller Weight	- 8 lbs, with battery included
Blanket	- Size: 40 x 60 inches (102 x 152 cm) - materials: outer layer waterproof nylon inner layer nylon acrylic
Blanket Cover	- Size: 40 x 60 inches (102 x 152 cm) - supplied as sterile, for single-use - moisture-resistant polypropylene
Temperature Specs.	- low setting approx. 30 C high setting approx. 40 C - thermal cutoff: 106F (41C)
Operating temperature (ambient)	- -4F to +104F (-20 to +40C)
Shipping/storage temp.	- -22F to + 122F (-30C to +50C)
Humidity	- 10% to 95% RH (non-condensing) @ 35C
Battery capacity	- 7Ah
Battery Voltage	- 8.5 to 14.5 Volts.
Supply Voltage	- 8.5 to 16 Volts
Supply Current	- 3 to 6.5 Amps
Recharging time (using specified AC charger)	- less than 12 hours
Battery operation time	- approximately 4.4 hours (lowest setting) - approximately 1.3 hours (highest setting)
Battery lifetime	- approximately 150 recharging cycles
Cigarette lighter adapter	- 10A fuse
AC battery charger	- wall bug (transformer plugs into AC outlet) - output 15V, 1A
AC Power Module	- input 110 to 240 VAC, 50-60 Hz. - European Classification Type B
Carrying Bag	- nylon material
Classification	- European Classification: Type B
IPXO	- not rated for water ingress









